



Case 1 - The Need

Upper Extremity Prosthetic Control

Financial Disclosure

- **Nothing to Disclose.**

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Case 1 – The Need

- 47 y/o man, left hand dominant electrician/electronics technician
 - Abdominal surgery for ruptured appendix
 - Post operative complications
 - Peritonitis
 - Coma
 - Necrotizing fasciitis
 - Significant soft tissue and muscle loss of the left forearm
 - Gangrene of the thumb and fingers of the right hand
 - Gangrene of several toes of both feet

Case 1 – The Need

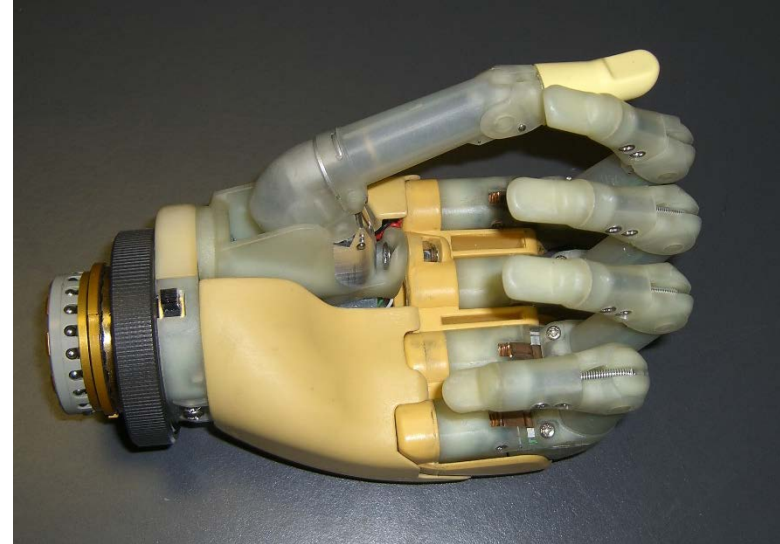
- 47 y/o man left hand dominant electrician/electronics technician
 - Required
 - A left short trans radial amputation (proximal 1/3)
 - Loss of all forearm flexor muscles
 - Residual proximal forearm extensor muscles
 - Skin graft required for closure
 - Normal elbow with full ROM
 - Amputation through proximal phalanges of all 5 digits R hand
 - Amputation of great and second toes both feet

Case 1 – The Need

- 47 y/o man left hand dominant electrician/electronics technician
 - Recovered from coma with normal cognitive function
 - Fit with prosthesis for left trans radial amputation
 - Initial body powered (cable operated) prosthesis
 - Myoelectric controlled externally powered prosthesis when stable
 - Single site control
 - i Limb hand

Case 1 – The Need

- Body Powered Prosthesis
- i Limb Powered Prosthetic Hand



Case 1 – The Need

- 47 y/o man left hand dominant electrician/electronics technician
 - Intermittent, fair prosthetic user
 - Extremely frustrated by
 - The mechanics of prosthetic control
 - Limited prosthetic hand function
 - Lack of sensory feedback
 - Inability to return to work – limits of prostheses

Case 1 – The Need

- 47 y/o man left hand dominant electrician/electronics technician
- Major challenge for the Prosthetic Team – **Limited Control Options** due to loss of muscle in the residual limb

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